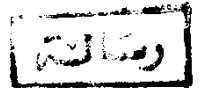


DIAGNOSIS AND TREATMENT OF THE COMPLICATIONS OF HAND INFECTION

THESIS

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بسم الله الرحمن الرحيم

"وقل رب زدني علما"

صدق الله العظيم



A C K N O W L E D G M E N T

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I N T R O D U C T I O N

Infection of the hand occurs frequently, because of the great exposure to injuries, which act as a portal of entry for invading organisms.

Function may be crippled, especially by destruction of the gliding mechanism of tendons, joints, peri-articular tissues and scar formation.

Diagnosis of hand infections involves the same general principles as diagnosis of infection elsewhere. Failure to make a diagnosis, leads to complications and disabilities worthy of special consideration.

Treatment of hand infections requires special adaptations of general principles, for treating infection. Heat, rest, elevation of the hand, antibiotics, frequent observation and early surgery are the framework of the proper treatment.

AIM OF THE WORK

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Hand infections were considered as frequent and very important surgical category that affect the medical and social life of manual workers.

General review of literature including complications of hand infection, basic principles of anatomy of hand and fingers, and bacteriological study of organisms involving in these infections, drugs acting against them is mentioned in this work.

Practical work, comprising clinical examination laboratory and radiological investigation were performed among sixty cases with advanced hand infection.

It is our aim to plan methods of early diagnosis of hand infection cases.

Proper management is essential in order to lower incidence of complications.

Evaluating study to the conservative and surgical treatment of complication of hand infections was done with special note on rehabilitation and occupational therapy.

REVIEW OF LITERATURE

SURGICAL ANATOMY OF THE HAND AND FINGERS

"Romanes, 1966; Mc Gregor & Du Flessis, 1969".

Fascial Spaces of the Hand :

[illegible]

The mid-palmar, thenar, and forearm spaces all lie deep to the flexor tendons and their synovial sheaths, which therefore form the anterior boundaries of these spaces.

Mid-palmar space : (Fig. 1)

Lies under the inner half of the hollow of the hand (between the thenar and the hypothenar eminences). Its shape is triangular.

Boundaries :

Anterior :

1- Flexor tendons, with their synovial sheaths, of the little, ring and middle fingers. The tendons of the middle finger are anterior relations of the thenar space also but are more intimately related to the mid-palmar space.

2- The lumbrical muscles related to the tendons of the ring and little fingers i.e. 3rd and 4th lumbricals.

Posterior :

The dense fascia covering the interossei and metacarpal bones.

Radial :

The fibrous partition between the thenar and mid-palmar spaces. This partition extends between(1) the fascia on the under-surface of the flexor tendons and (2) the fascia covering the interossei and adductor of the thumb.

Ulnar : The hypothenar muscles.

Proximal :

It reaches the level of the distal margin of the transverse carpal ligament. Sometimes this space is continuous with the forearm space by a small tunnel behind the flexor sheaths at the wrist.

Distal :

It reaches almost to the level of the distal palmar crease. The lumbrical muscles have delicate fascial sheaths which are so intimately related to the palmar spaces that infection of the space causes infection of

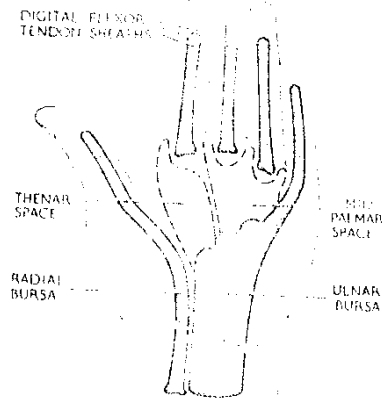


Fig. 1 a



Fig. 1 b

Fig. 1 — Flexor tendons and flexor tendons sheaths of hand.

(After Qvist 1977)

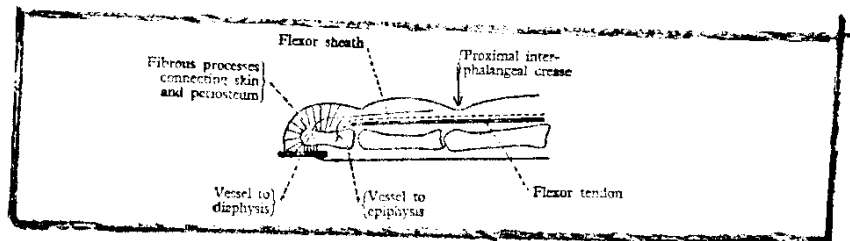
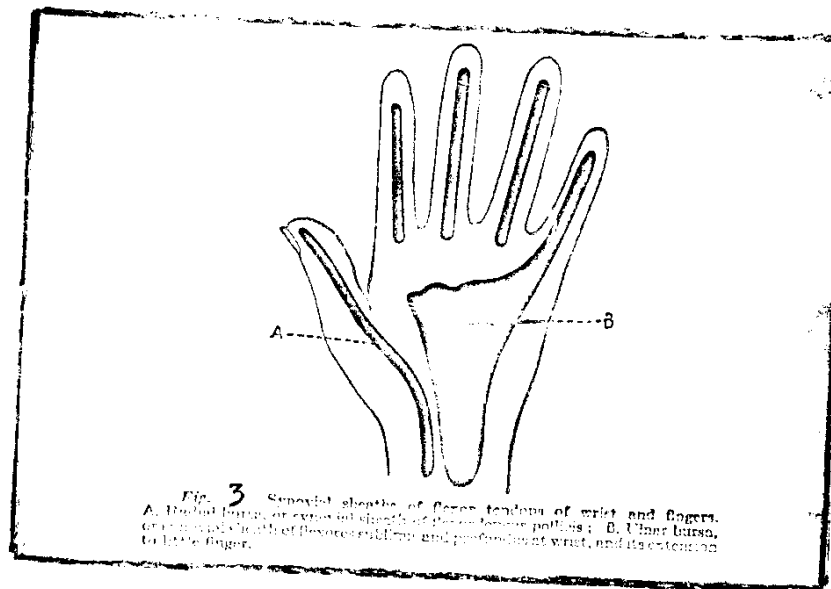


Fig. (2) Anatomy of pulp space
(After McGregor & Du Plessis 1969)



the related lumbrical sheath. Each lumbrical sheath may therefore almost be looked on as a diverticulum of the space to which it is related. The 3rd and 4th lumbrical sheaths would therefore be diverticula of the mid-palmar space. The first lumbrical sheath would therefore be a diverticulum of the thenar space.

Pus in the mid-palmar space is usually drained by slitting the web between the 3rd and 4th and 5th digits and opening the sheath of the lumbrical in the space.

Thenar space : (Fig. 1)

Position :

It lies under the outer half of the hollow of the palm. It is triangular in shape.

Boundaries :

Anterior :

- 1- Short muscles of the thumb.
- 2- Flexor tendons of index finger.
- 3- First and second lumbricals.

Posterior :

The adductor pollicis, mainly its transverse head.